



PUBLIC HEALTH FACT SHEET

RICIN

The Agent

- Ricin is a poison that can be made from the waste left over from processing castor beans.
- Ricin can be in the form of a powder, a mist, or a pellet. Ricin can be dissolved in water or weak acid. Effects of ricin poisoning depend on whether ricin was inhaled, ingested or injected.
- Ricin gets inside the cells of a person's body and prevents the cells from making the proteins they need. Without the proteins, cells die. Eventually this is harmful to the whole body, and death may occur.
- Death from ricin poisoning could take place within 36 to 72 hours of exposure, depending on the route (inhalation, ingestion, or injection), the amount and the length of time of exposure. If death has not occurred in 3 to 5 days, the victim usually recovers.
- Ricin poisoning is not contagious. It cannot be spread from person to person.

Symptoms

- The major symptoms of ricin poisoning depend on the route, amount and length of time of exposure.
- Initial symptoms of ricin poisoning by inhalation may occur within 8 hours of exposure. Following ingestion of ricin, initial symptoms typically occur in less than 6 hours.
- Inhalation: Within a few hours of inhaling significant amounts of ricin, the likely symptoms would be difficult breathing, fever, cough, nausea, and tightness in the chest. Heavy sweating may follow as well as fluid building up in the lungs (pulmonary edema). Fluid in the lungs would make breathing even more difficult, and the skin might turn blue because it lacks oxygen. Excess fluid in the lungs would be diagnosed by x-ray or by listening to the chest with a stethoscope. Finally, low blood pressure and respiratory failure may occur, leading to death. A person who has inhaled ricin should seek medical attention.
- Ingestion: If someone swallows a significant amount of ricin, he or she would develop vomiting and diarrhea that may become bloody. Severe dehydration may be the result, followed by low blood pressure. Other signs or symptoms may include hallucinations, seizures, and blood in the urine. Within several days, the person's liver, spleen, and kidneys might stop working, and the person could die.
- Skin and eye exposure: Ricin in the powder or mist form can cause redness and pain of the skin and the eyes.

Diagnosis

- No widely available, reliable test exists to confirm that a person has been exposed to ricin.
- Health officials might suspect ricin poisoning if a large number of people who had been close to each other suddenly developed cough and excess fluid in their lungs.

Treatment

Because no antidote exists for ricin, it is important to avoid ricin exposure in the first place. If exposure cannot be avoided, it is important to get the ricin off or out of the body as quickly as possible. Ricin poisoning is treated by giving victims supportive medical care to minimize the effects of the poisoning. Supportive care includes:

- Helping with breathing,
- Administering intravenous fluids (fluids given through a needle inserted into a vein),
- Prescribing medications to treat conditions such as seizure and low blood pressure,
- Flushing the stomach with activated charcoal
- Washing the eyes with water.

Reducing the Risk

If you think you may have been exposed to ricin

- Immediately get fresh air by leaving the area where the ricin was released.
- Listen to the instructions of emergency coordinators. If you are in an area where ricin has been released, you may be told either to evacuate the area or to “shelter in place” inside a building.
- Remove your clothing, rapidly wash your entire body with soap and water, and get medical care as quickly as possible. Dial 911 and explain what has happened.

Ricin and Bioterrorism

According to the Centers for Disease Control and Prevention (CDC), ricin could be used as a biological weapon, resulting in sickness and death.

For More Information Contact

- Your healthcare provider
- Your local department of health
- The New Jersey Dept. of Health and Senior Services
Communicable Disease Service at (609) 588-7500
- You can also visit the following websites:

The New Jersey Department of Health and Senior Services website at

www.nj.gov/health

The CDC website at <http://www.bt.cdc.gov/agent/ricin>.